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Response

Applicant: Daniel R. Tretter et al.

Serial No.: 10/672,544

Filed: September 26, 2003

Docket No.: 200312433-1

Title: GENERATING AND DISPLAYING SPATIALLY OFFSET SUB-FRAMES

IN THE CLAIMS

1.(Previously Presented) A method of displaying images with a display device, the method comprising:

receiving image data for a plurality of image frames;
generating at least one sub-frame for each image frame based on the received image data;
displaying the sub-frames for each image frame in a first set of the plurality of image frames at a first plurality of spatially offset positions;
displaying the sub-frames for each image frame in a second set of the plurality of image frames at a second plurality of spatially offset positions that is different than the first plurality of spatially offset positions; and
sequentially displaying a plurality of colors during the display of each of the sub-frames.

2.(Original) The method of claim 1, wherein the sub-frames for each image frame are displayed with a temporal offset.

3.(Original) The method of claim 1, wherein the sub-frames for consecutive image frames are displayed at different pluralities of spatially offset positions.

4.(Original) The method of claim 1, wherein the first and the second pluralities of spatially offset positions each include two positions.

5.(Original) The method of claim 4, wherein the first plurality of spatially offset positions includes a first position, and a second position diagonally offset from the first position in a first diagonal direction.

6.(Original) The method of claim 5, wherein the second plurality of spatially offset positions includes a third position spatially offset from the first and the second positions, and

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a fourth position diagonally offset from the third position in a second diagonal direction that is substantially perpendicular to the first diagonal direction.

7.(Original) The method of claim 1, wherein the first and the second pluralities of spatially offset positions each include four positions.

8.(Previously Presented) A system for displaying images, the system comprising:
a buffer adapted to receive image data for first and second images;
an image processing unit configured to define first and second sub-frames corresponding to the first image, and define third and fourth sub-frames corresponding to the second image; and
a display device adapted to alternately display the first sub-frame in a first position and the second sub-frame in a second position spatially offset from the first position, and alternately display the third sub-frame in a third position spatially offset from the first position and the second position, and the fourth sub-frame in a fourth position spatially offset from the first position, the second position, and the third position, wherein the display device is adapted to use pulse-width modulation to represent different light intensities in the displayed sub-frames.

9.(Original) The system of claim 8, wherein the second position is diagonally offset from the first position in a first diagonal direction.

10.(Original) The system of claim 9, wherein the fourth position is diagonally offset from the third position in a second diagonal direction that is substantially perpendicular to the first diagonal direction.

11.(Original) The system of claim 8, wherein the image processing unit is configured to define a first set of four sub-frames corresponding to the first image, and define a second set of four sub-frames corresponding to the second image, and wherein the display device is

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adapted to alternately display the first set of four sub-frames in a first set of four spatially offset positions, and alternately display the second set of four sub-frames in a second set of four spatially offset positions that is different than the first set of four spatially offset positions.

12.(Previously Presented) A system for displaying low resolution sub-frames at spatially offset positions to generate the appearance of a high resolution image, the system comprising:

- means for receiving a set of consecutive high resolution images;
- means for generating a plurality of low resolution sub-frames for each of the high resolution images;
- means for alternately displaying the low resolution sub-frames for each of the high resolution images at a set of spatially offset positions;
- means for automatically varying the set of spatially offset positions for at least one of the high resolution images; and
- means for sequentially displaying a plurality of colors during the display of each of the low-resolution sub-frames.

13.(Original) The system of claim 12, wherein the means for varying is configured to vary the set of spatially offset positions such that the sub-frames for consecutive high resolution images are displayed at different sets of spatially offset positions.

14.(Original) The system of claim 12, wherein the means for generating is configured to generate two sub-frames for each of the high resolution images, and wherein the means for alternately displaying is configured to display the two low resolution sub-frames for each of the high resolution images at a set of two spatially offset positions.

15.(Original) The system of claim 14, wherein the means for varying is configured to vary the set of spatially offset positions such that the sub-frames for consecutive high resolution images are displayed at different sets of two spatially offset positions.

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16.(Original) The system of claim 15, wherein the different sets of two spatially offset positions include a first set and a second set, the first set including a first position, and a second position diagonally offset from the first position in a first diagonal direction, the second set including a third position spatially offset from the first and the second positions, and a fourth position diagonally offset from the third position in a second diagonal direction that is substantially perpendicular to the first diagonal direction.

17.(Original) The system of claim 12, wherein the means for generating is configured to generate four sub-frames for each of the high resolution images, and wherein the means for alternately displaying is configured to display the four low resolution sub-frames for each of the high resolution images at a set of four spatially offset positions.

18.(Original) The system of claim 17, wherein the means for varying is configured to vary the set of spatially offset positions such that the sub-frames for consecutive high resolution images are displayed at different sets of four spatially offset positions.

19.(Previously Presented) A computer-readable medium having computer-executable instructions for performing a method of displaying low resolution sub-frames at spatially offset positions to generate the appearance of a high resolution image, comprising:

- receiving a set of consecutive high resolution images;
- generating a set of low resolution sub-frames for each of the high resolution images;
- alternately displaying the low resolution sub-frames for each of the high resolution images at a plurality of spatially offset positions;
- automatically varying the plurality of spatially offset positions for at least one of the high resolution images; and
- generating light pulses of varying widths to represent different light intensities in the displayed low resolution sub-frames.

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20.(Original) The computer-readable medium of claim 19, wherein the plurality of spatially offset positions are varied such that the sub-frames for consecutive high resolution images are displayed at different spatially offset positions.